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Industrial and Homemaking Subjects for Girls

TREVA E. KAUFFMAN

—and—

OAKLEY FURNEY





THE ORGANIZATION AND TEACHING OF INDUSTRIAL AND HOMEMAKING SUBJECTS IN PART-TIME OR CONTINUATION SCHOOLS

TREVA E. KAUFFMAN

Specialist in Home Economics Education
New York State Education Department

AND

OAKLEY FURNEY

Specialist in Part-Time Education
New York State Education Department

CREDIT.

In presenting this monograph the authors wish to give due credit for valuable suggestions, material and criticisms to—

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MISS ADELAIDE BAYLOR
Federal Board for Vocational Education
Washington, D. C.

C. L. KULP
Director of Industrial Arts
Ithaca, N. Y.

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THE ORGANIZATION AND TEACHING OF INDUSTRIAL AND HOMEMAKING SUBJECTS FOR GIRLS IN PART- TIME OR CONTINUATION SCHOOLS

The Problem

There is a social, economic and educational justification for part-time or continuation schools of compulsory character operated for the benefit of employed youths. It remains the problem however for those engaged in the work of organizing and of teaching in such schools, to so plan instruction and instructional material that the purposes of this new educational institution may be realized.

The courses which by common consent seem to be essential to the satisfactory accomplishment of the aims and objectives of the program are as follows:

- 1 industrial courses for boys
- 2 commercial courses for boys and girls
- 3 industrial courses for girls
- 4 homemaking courses for girls
- 5 agricultural courses
- 6 general continuation courses

This monograph is concerned primarily with the organization and teaching of industrial and homemaking courses for girls.

Occupational Courses for Girls

The greatest contribution which the part-time school can make to the needs of employed girls is in terms of occupational training. It is obvious that such training should be closely related to the occupations in which girls and women are engaged. Consequently in the planning of courses due consideration must be given to (1) the immediate needs of employed girls from the standpoint of work and wage earning and (2) the future needs of such girls. That is, the instruction must be adjusted to help them in their present occupations and to guide them towards and prepare them for possible future occupations of desirable character.

It is not difficult to determine the occupations in which girls and women are engaged. The United States Census report for 1920 shows the following to be the principal occupations in which they are engaged in the State of New York. The same sort of facts can be ascertained for any community by the making of a simple survey of the place, and for many communities may be obtained directly from the census report.

Principal Occupations of Females 10 Years of Age and Over Gainfully Employed in the State of New York in 1920 (and 1910)

	1920	1910
All occupations.....	1,135,246	983,686
Actors and show men.....	5,635	4,432
Agents and collectors.....	2,242	983
Artists, sculptors and teachers of art.....	3,483	2,827
<i>Barbers, hairdressers and manicurists</i>	5,080	5,049
Bookeepers, cashiers and accountants.....	60,424	33,603
Clerks, except clerks in stores.....	95,208	27,191
Clerks in stores.....	21,050	16,757
Compositors, linotypers and typesetters.....	1,305	1,426
Designers, draftsmen and inventors.....	3,161	1,326
Dressmakers, seamstresses (not in factories)...	37,849	68,082
Farmers—general farms.....	4,693	6,187
Farm laborers (home or working out).....	1,720	4,444
Foreman and overseers, manufacturers.....	7,060	5,095
<i>Housekeepers and stewards</i>	23,799	20,648
Janitors and sextons.....	10,460	19,988
Laborers, porters and helpers in stores.....	1,198	859
Launderers and laundresses (not in laundries)..	20,574	32,465
Managers and superintendents, manufacturing..	1,151	359
Manufacturers and officials.....	1,698	1,125
Messengers, bundle and office girls.....	1,993	3,128
<i>Midwives and nurses (not trained)</i>	20,811	19,539
Musicians and teachers of music.....	9,547	10,814
<i>Restaurant keepers</i>	1,606	1,066
Retail dealers.....	11,689	11,726
Saleswomen.....	44,273	41,287
Semiskilled operatives, cigar and tobacco factories.....	9,036	11,786
<i>Semiskilled operatives, knitting mills</i>	14,828	not available
Semiskilled operatives, printing and publishing..	8,991	8,722
<i>Semiskilled operatives, shirt, collar and cuff factories</i>	17,919	not available
Semiskilled operatives, shoe factories.....	8,734	5,460
<i>Semiskilled operatives, suit, cloak, coats and overall factories</i>	18,089	not available
<i>Servants and waiters</i>	151,456	198,970
Stenographers and typists.....	103,721	49,281
<i>Tailors and tailoresses</i>	7,611	11,254
Teachers, school.....	63,637	50,793
Telephone operators.....	29,004	12,154
<i>Trained nurses</i>	21,915	12,877

It is fair to assume that 90 percent of all women marry and so become homemakers, or in some sense responsible in part for the conduct of a home.

In view of the above facts any program planned for a community which had an occupational distribution similar to that revealed by the above grouping of the employed women in the State of New York which did not provide courses related to the indicated occupations would hardly be effective.

Some of the industrial and homemaking courses which should be provided to meet the needs of women in the State of New York are as follows:

- 1 Homemaking
- 2 Hair dressing and manicuring
- 3 Composition and typesetting
- 4 Designing
- 5 Foreman training
- 6 Dressmaking
- 7 Housekeeping and management
- 8 Janitorial work
- 9 Laundrying—home
- 10 Textile work—knitting mills
- 11 Printing and publishing
- 12 Shoe making
- 13 Suit, cloak, coat and overall making
- 14 Serving and waiting
- 15 Tailoring

Also in view of the traditional types of work in which women are engaged and the large number of girls and women employed in certain occupations not appearing in the census enumeration given above, it would seem proper to suggest as well the inclusion of the three following courses:

- 1 Millinery
- 2 Course for housemaids or household assistants
- 3 Course for nurse girls

While the occupational distribution of women will vary in various communities conclusions similar to the above can be drawn from a consideration of the occupation statistics relative to women for that community.

Objectives of Courses

The objectives of courses in industrial and homemaking subjects are well recognized and defined. They are as follows:

- 1 Homemaking
 - a To meet the individual needs of girls in terms of personal improvement, to the end that they may be better and more efficient workers. (Courses having this particular objective would probably be planned for the younger girls or for girls taking homemaking at the same time that they are taking industrial or commercial courses).
 - b To meet the needs of girls as members of the family group. (Courses having this particular objective would serve girls who are at home and without outside remunerative employment but acting as assistants in the home work, or girls who are working in homes other than their own).
 - c To meet the needs of the girls as future homemakers. (Courses having this objective would probably be of more interest to the older girls or those anticipating marriage).
- 2 Industrial Courses
 - a To provide satisfactory vocational guidance instruction in terms of information relative to and of participation in occupational work.
 - b To prepare the girl for advantageous entrance into the field of wage earning by providing for her suitable training in some selected occupation.

- c To equip the girl for progress and advancement in the type of work in which she is engaged.

It is probable that nearly every course set up for girls should include some work in homemaking. Certainly every occupational course set up for girls should be supplemented by proper homemaking instruction which should have for its aim some one of the objectives which have been determined for such work. For example, girls taking a commercial course might devote three fourths of their time of attendance to practical commercial work and one fourth to homemaking. The same sort of program might be set up for girls taking industrial work. In view of the fact that all training for girls and women should include within its purview two major objectives (1) homemaking training and (2) occupational training, it is probable that all industrial, commercial and general continuation courses for girls should be supplemented by instruction in homemaking.

Preliminary Steps

Before occupational courses of any kind can be taught an analysis or inventory of the occupation must be made, a course of study formulated on the basis of the analysis, and unit lessons planned for the purpose of putting over the course of study, which lessons should also be organized in the form of unit instruction sheets that can be used to supplement and make more effective the teaching done by the instructor.

Teachers of vocational home economics have already formulated analyses of the work and functions of the homemaker. These analyses include the following separate and distinct lines of vocational, social and economic activities:

- 1 The care of the health of the family
- 2 The selection, preparation and serving of food
- 3 The care of the house and its equipment
- 4 The selection and care of clothing and to some extent its construction
- 5 The care and rearing of children
- 6 Social and economic adjustment of the home

Any plan for homemaking education in the part-time school must include the fundamentals of these six lines.

The process of analyzing industrial occupations and organizing the courses of study will be considered later.

Courses of Study in Homemaking

The courses of study presented in this section are based upon proper analyses and have been formulated in view of the objectives set up for work in homemaking for girls in part-time schools. The first course presented has as its objective the personal improvement of girls that they may be better and more efficient workers. This course includes the subject matter and practice which will help girls to be well and healthy, to look well, to act well, to spend their money and time intelligently and to save a little money regularly. It will not be "cooking" and "sewing" but will be a well rounded course giving the girl the essential elements of homemaking which affect her everyday life as a worker, a member of a family and of the community.

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It is so planned that it will be valuable to all girls whether they marry or not, because there is a certain body of knowledge which all women need and use in their lives whether they marry or not. The girl who has this course should be a more satisfactory employee, a more useful citizen of the community and a better member of her family.

The course which is here outlined is not to be regarded as a fixed and rigid one. No one course would be practical for all groups of girls. The needs of the girls themselves and the needs of the community will determine what should be added to this outline, what will be most stressed and what will receive least attention.

While some of the subject matter has been separated from practice it is to be noted that some of it is directly related to practice. This is due to the fact that it is almost impossible to plan class room practice for such subjects as home life, courtesy, the teeth, the skin and selection of garments. It is therefore suggested that each teacher divide her homemaking period into two parts, one in which there will be group teaching of subject matter, and the other in which there will be actual practice. Undoubtedly all the girls will not be working on the same things at the same time in most lessons. It is well to set some time limit to the discussion period which under ordinary conditions should not exceed twenty minutes and which in many cases can be done in much less time, if the discussion is well planned.

In order to teach such subjects as the selection of garments it will be necessary to have a number of actual garments for the girls to use. It is recommended that in these cases the teacher make connections with local stores which will gladly loan for a short time things which the school is not able to provide.

The girls should bring their own garments to school to work upon and the successful teacher will be able to bring this about. However, it will be necessary for each teacher to have a supply on hand to provide for the girl who does not do so. In most communities such material may be secured through various institutions, as hospitals and orphanages. Such institutions are glad of the help they will receive through the schools and the school is thus provided with suitable problems for the girls without cost for materials.

In planning the practice in this course teachers should keep in mind the girl's limited time and set up standards of work which are commensurate with the time she may legitimately spend. A reasonable standard, which the girl will be able to practice in her daily life, is more to be desired than perfection in detail.

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Courses of Study

Information	Practice (Essential)
I Personal appearance	1 Care and repair of clothing
1 Importance of appearance	a Knitted underwear
2 Study of the points which contribute to good appearance	1 Mending
	2 Laundering
II The Skin	b Muslin underwear
1 Care	c Stockings
2 Prevention and care of eruptions	d Woolen skirts and dresses
3 Care of chapped, roughened skin	1 Brushing
4 Care in excessive perspiration	2 Stain removal
	3 Mending
	4 Cleaning of lining; shields
	5 Sponging
	6 Pressing
	e Waists
	1 Mending
	2 Laundering
	f Gloves
III The Hair	2 Planning of girl's clothing for one season
1 Daily care	3 Shampooing hair
2 Styles of hair dressing; principles underlying selection of becoming styles of hair dressing	4 Manicuring nails
3 Occupational care—shampooing; prevention and care of pediculosis	5 Buying garments for self
	6 Preparation and serving of simple meals such as the girl may prepare at home
	7 Planning of family meals

IV The Nails

- 1 Daily care
- 2 Manicuring

V The Teeth

VI Clothing

- 1 Study of appropriate clothing
- 2 Study of small points in adjustment of clothing which tend to improve personal appearance
- 3 Cleanliness and neatness
- 4 Study of ordinary forms of ornamentation as jewelry, earrings, rouge and perfumes

VII Conservation of Clothing

- 1 Money value of her present clothing
- 2 Study of ways in which length of service of clothing may be increased; proper care; use of protectors
- 3 Possibilities of remodeling and renovating

VIII Selection of clothing

- 1 Simple laws of design applying to selection of clothing
- 2 Amount of clothing actually required
- 3 Clothing cost and budget
- 4 Making vs buying garments
- 5 Important factors in selecting ready to wear clothing:-shoes, stockings, knitted and muslin underwear, corsets, dresses, waists, outer garments and hats
- 6 Important factors in selecting ordinary materials

- 8 Planning and packing a lunch box

- 9 Planning and preparation for party

- 10 Planning of bedroom equipment

- 11 Care of bedroom

- 12 Care of toilet articles

(Other Suggested Material)

- A Preparation of simple diets, such as convalescent

- B Refreshing an old hat

- C Remodeling a waist or dress

- D Making of smock or waist

- E Making of simple dress

- F Refinishing bedroom furniture

- G Renovating corset

- H Putting winter clothing or bedding away for summer

- I Laundering of bedding, towels and bedroom furnishings

- J Making of bedding, towels, wash cloths, curtains and similar articles for bedroom

- K Bandaging sprains

- L Care of cuts, bruises, burns and sprains

- M Preparation of gift for mother

- N Buying of any new equipment for school

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IX Food

- 1 Simple study of kinds of food
- 2 Study of types of meals
- 3 Rules for selection of food from menu
- 4 Standards of cleanliness in handling food

X Home life

- 1 What is home?
- 2 Individual responsibility and co-operation in family
- 3 Responsibility of girl toward parents, brothers and sisters
- 4 Opportunities to increase happiness of family
- 5 Hospitality — friends in the home

XI Her room

- 1 Study of air
- 2 Study of order, care and equipment
- 3 Time required daily
- 4 Study of ways of making it more attractive and the simple laws of design applying to home furnishing

XII Her time

- 1 Study of her time expenditures for 24 hours. What is she saving?
- 2 Recreation and social life
- 3 Time necessary at night to prepare for work of next day
- 4 What can be done before going to work

Note: Items 1 to 12 are essential. Items *A* to *N* are suggestive of material which might be given dependent upon the needs of the group.

XIII The Economy

1. Growth of the economy
2. The role of the state

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The role of the state in the economy is a complex issue. It involves the allocation of resources, the provision of public goods, and the regulation of markets. The state can play a crucial role in promoting economic growth and development. It can provide infrastructure, education, and healthcare, which are essential for a healthy and productive economy. The state can also regulate markets to prevent monopolies and ensure fair competition. This can help to protect consumers and ensure that the benefits of economic growth are shared by all. However, the state's role in the economy is not without controversy. Some argue that the state's intervention in the economy is inefficient and costly. They argue that the market is the best way to allocate resources and that the state's intervention only distorts the market. Others argue that the state's intervention is necessary to correct market failures and to provide public goods. They argue that the state's intervention is essential for a healthy and productive economy. The role of the state in the economy is a complex issue that requires careful consideration. It is essential to weigh the benefits and costs of state intervention and to find a balance that promotes economic growth and development while protecting the interests of all.

XIII Her money

- 1 Study of her expenses. What is she saving?
- 2 Simple rules of budget making for the individual
- 3 Family budget

XIV Care of health

- 1 Simple laws for keeping well
- 2 Simple precautions against disease at home and at work
- 3 Simple remedies for headache and constipation
- 4 Simple rules for care of sick
- 5 Emergencies

XV Courtesy

- 1 Special customs governing ordinary affairs of life
- 2 Courtesy at home, at work, in public and to friends

The second course presented has for its purpose the instruction of the girl as to her duties as a member of the family group that she may become a more worthy and helpful member.

The approach in teaching such a course with such an aim can be successfully determined only by a tactful and sympathetic teacher. The conditions under which these girls work and the homes in which they live must be discovered by the teacher. To study the girl with a real interest in her needs must be the constant thought of the teacher. Only through follow-up visiting to the place of employment and home may the purpose of the course be realized. A survey or general study made by the teacher of the places of employment of these girls, of their homes, of the community and of the recreational facilities will aid in this work.

This course has been worked out in units. Each unit should be broken up into lessons and the teaching of the instructor may be supplemented by the use of unit instruction sheets. The subject matter has been set up on the project basis as this method of teaching offers the largest possibilities in the way of development of interest, of meeting genuine needs and of presenting problems to be solved. Whenever this method is used it is essential that the teacher find real life problems, selected on the basis of school or community needs, for the pupils to solve. Very little class or individual instruction should be given. Interesting discussions should be developed with the various groups.

Where the homemaking equipment such as is suggested in this monograph is used, the project method of teaching is easily carried out since the girls are organized into small groups, generally four or five in a group, and so can work out their plan. The groups should be organized by having the procedure which is to be used developed through discussions with the teacher after some reading and study of the subject.

Since nearly all the girls have some specific home duties, it is possible to work these out as home projects. The teacher can supervise this work when making her follow up visits or through conferences with the girls at school. Home projects must meet real needs and should be built up around the home or occupational life of the girl.

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I Unit — Food for her family—6 lessons

Project—What should the girl know about the selection, preparation, marketing, planning and serving of food for the three daily meals which will enable her and her family to keep well and be properly nourished at a reasonable cost?

Discussion	School Project and Practice	Home Work which can be developed into Home Projects
The average American family and different members composing a family, their age and employment. Have each girl list the number of different people in her family and the wages and employment of each	Breakfast Lunch Dinner Supper Packing a lunch for work or school or picnic. Afternoon tea or refreshments for a party or entertainment	The marketing, planning and serving of meals Care of kitchen and utensils Planning and packing of luncheon for father, mother or some other member of family
Food required from the nutrition standpoint. (Show food nutrition charts and have girls weigh and measure themselves and keep their own charts)	Thanksgiving or some special dinner Visit to market or grocery store Practice in marketing for above meals if possible	Planning the food for a younger brother or sister Keeping of food account Plan and serve a tea or refreshments for a party
How much food is required for the family and cost?		
Where to buy food in grocery, market and other places		Setting of table with study of proper covering such as tablecloth and runners. Proper arrangement of china and silver. Study of serving without help
Cost in comparison to nutrition		
Meals planning with reference to three meals a day in the home and outside		
Serving and table manners		
Care of food in the home		

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II Unit—Clothing for the family—6 lessons

Project — What should the girl know about the selection, construction, remodeling, care and repair, cost of her clothing, and that of her family in order to dress more wisely, spend and choose more intelligently?

Discussion	School Project and Practice	Home Work which can be developed into Home Projects
What are the clothing needs of each girl?	Make a list of her own needs and necessary purchases to be made together with the things on hand. Show the relation of this to the family needs	Care and upkeep of own wardrobe, or that of any member of the family
Her wardrobe such as undergarments, outer-garments and accessories.		Family mending
Average cost	Renovate or remodel a garment, or make a new garment	Planning and buying of clothes for a younger member of the family or for self
The girl's clothing needs in relation to needs of other members of the family	Millinery may be remodeled or a simple new hat made	Laundering of clothing
Comparison of commercial appropriateness of dresses	Request a good milliner to give a talk and bring a number of hats for girls to see and try on	Care and upkeep of own wardrobe, or that of any member of her family
Design, color and appropriateness of dress		Family mending
Care and repair of family clothing	Child's garment	Planning and buying of clothes for a younger member of the family or for self
	Laundering of a simple waist and stockings	
	Removal of spots and stains from clothing (girl's or family garments)	Laundering of clothing
	Repair of clothing, mending and darning of girl's own garments or those belonging to other members of the family	Plan making of some clothes for a younger member of the family or for self
	Visit to department store, if possible to purchase something	Planning and making of some Christmas gifts

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III Unit—Shelter of family—6 lessons

Project—What should the girl know about proper living quarters in order that she and her family may be better housed from sanitary and aesthetic aspects?

Discussion	School Project and Practice	Home Work which can be developed into Home Projects
Selection of a place to live as room, apartment or house	List number of rooms family will require. Work out problem of owning or renting a home	Redecorate or furnish girl's own room, or any room, or any room of the house
Its location in relation to employment and money of girl and her family	Talk by real estate man	Plan and purchase curtain materials for various rooms.
Owning or renting	List advantages of present location of home, or other locations	Plan and purchase china, linen, silver, or glass for the home.
Needs of the family group	Analyze neighborhoods according to sanitation, noise and public utilities such as streets, sewers, water, light and protection	Select a room or apartment for a house in which the girl and her family may live. (This is possible if the girl or family should move).
Sanitation of house	Have a plumber talk on simple sanitation topics such as running water, sewerage, sinks, toilets and baths; supplement with a talk by a good homemaker who has solved these difficulties	Care of a girl's own room or any other room
Furnishing of each room to make home more beautiful	Plan to visit stores and see furnishings; if possible furnish a room at school	Ventilation of house and sleeping quarters
Care of house, cleaning, ventilation, heating and lighting		

IV Unit—Health of family—5 lessons

Project—What should the girl know about the general rules of health, the simple principles of home nursing and first aid in order to keep herself well and to help her family?

Have a Red Cross nurse demonstrate simple treatments for diseases and the care of a patient; also first aid remedies and something on care of babies and children.

Have a kindergarten teacher give a talk and demonstration on the training of children.

Discussion	School Project and Practice	Home Work which can be developed into Home Projects
Importance of keeping well	Show food charts and charts giving food requirements for persons of different weights	Have girl try out rules of health for a month and see results on self
Factors influencing health such as food, clothing, bathing, care of teeth, hair and skin	Show proper kind of clothing to wear in order to maintain health	Plan and supervise the diet of a member of family who is ill
Community health	List all public agencies such as schools, boards of health, street cleaning department, fire department and hospitals which have to do with the health and protection of the family,	First aid remedies
Simple but fundamental principals of home nursing and first aid		
Physical care and training of children		

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GAITHERSBURG, MARYLAND 20899

FROM: [illegible]

V Unit—Budgeting the family income—5 lessons

Project—What should the girl know about the amount of money necessary in order to meet her various needs such as food, clothing, shelter, carfare, recreation, savings, vacation and illness, and the relation of her needs to those of her family?

Discussion	School Project and Practice	Home Work which can be developed into Home Projects
Have girls discuss problems relating to expenditure of money for individual and family needs.	<p>Have girls list things their money is spent for.</p> <p>Use charts to show division of income.</p> <p>Take definite income of working girls and divide it; do the same with the family income.</p> <p>Have a talk given by a banker on savings accounts. Visit a bank.</p>	<p>Keep a personal account or a good account of the family or the whole budget.</p> <p>Develop personal or family budget.</p>

ANNALS OF THE ENTOMOLOGICAL SOCIETY OF AMERICA

Volume 54, Number 1, February 1961

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VI Unit—Time and recreation of her family—5 lessons

Project—What should the girl know about planning her time and that of her family in order that they may all have profitable recreation along the lines of education and pleasure?

Discussion	School Project and Practice	Home Work which can be developed into Home Projects.
Systematic planning of the work of the girl.	Show a chart or have girls make one of how 24 hours are spent both by the girl and her family.	Plan to carry out a schedule for her work for a week.
Labor saving appliances.	Show how each member of the family could be helped in the performance of their home duties by the girl.	Test out a labor saving appliance.
Wholesome and educational recreation in a community through reading, visits to library, music, concerts, movies, parks, beaches, dancing and dance-halls.	Demonstrate some labor saving appliance.	Plan and carry out a recreation program for a week or a month.
Gymnasium and athletics.	List the wholesome and educational opportunities for recreation in the community.	Plan a vacation for self and the family.
	Plan and go on a picnic, or have a party, or visit a library, music hall or college.	

VII Unit—Home life of her family—5 lessons

Project—What should the girl know about her part in maintaining home life, that is hospitality, mutual helpfulness and co-operation with her family, and the relation of her home to the community?

Discussion	School Project and Practice	Home Work which can be developed into Home Projects
Difference between a house and a home.	Show pictures of primitive homes and of homes today.	Plan and carry out some home entertainment.
Proper standards and how to maintain them.	Show the difference between a real home and and simply living or boarding.	Introduce into the home some new books, magazines or music. Have a home entertainment such as a party, dinner or mother's or girl's club meeting.
What constitutes an enjoyable home?	Collect good books and read some in class.	Plan some recreation for the family outside of the home such as a picnic, a visit to a library, an art gallery, museum, school or college, a water trip or a hike.
Arrangement of home duties so as to have time and place for reading and for entertainment of the family and guests.	Play some choice records on the victrola. Plan some entertainment for the home either for children or friends, such as a tea or party.	

THE HISTORY OF THE CITY OF BOSTON

From the first settlement of the city in 1630 to the present time, the city has grown from a small fishing village to a great metropolis. The city has been the seat of many important events in the history of the United States, and has played a prominent part in the development of the nation.

The city was founded in 1630 by a group of Puritan settlers who came from England. They established a colony on the eastern shore of Boston Harbor, and the city grew rapidly. In 1639, the city was incorporated as the Town of Boston.

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Housing and Equipment for Part-time Classes in Homemaking.

The teaching of homemaking in a practical way so that it will function in the life of the girl demands that the place in which the instruction is given approach as nearly as possible desirable home conditions. A house of average size is the most satisfactory place in which to give homemaking instruction. Other plans which have been followed are (1) building an apartment in the school (2) partitioning off one large room into the various rooms of the house by setting up temporary movable partitions (3) arranging the furnishings of the house in one large room in such a way that the various rooms are simulated but using no partitions. This last plan is a good one where all the instruction must be given by one teacher.

In furnishing any of the above places, the home idea should be kept in mind. The simplest home furnishing for the various rooms should be used. The following rooms are suggested in order to teach the work successfully—kitchen, clothing room, dining room, bed room, living room. In the beginning it will be necessary to furnish the kitchen and the clothing room. Other rooms may be furnished as the work develops, and the furnishing of these rooms will afford an excellent opportunity for carrying out good instruction in homemaking.

The following is not a complete equipment list but is a very suggestive one:

1 Kitchen:

1 cupboard, 2 kitchen tables, 1 range with oven (same fuel as is used in the community), 1 sink with drainboard, hot and cold running water, 1 laundry tub, 1 refrigerator, 1 garbage can, 1 broom and 1 dust pan. Family size kitchen utensils such as dishpans, saucepans, mixing bowls, measuring cup, kettles, double boiler, pie pans, flour sifter, egg beater, food chopper, colander, bread pan, can opener, salt and pepper containers, knives, forks, spoons and jars for supplies, towels, dishcloths, floor cloths, dust cloths, dish towels and floor mops.

2 Clothing Room:

Sewing tables 3' x 6' and 30" to 31" high, sewing machines (one for every four or five girls), chairs—height 14" to 16", mirror for fitting, locker case or cupboard for storage of materials and unfinished garments, screen, cutting tables (32" high is desirable), ironing boards.

3 Dining Room:

Dining room table, chairs, 1 small serving table, simple dinner set, silver (plated knives, forks and spoons), linen (may be table cloth and napkins, or simple luncheon set, or runners made by class) and table felt.

The dining room table may be bought at second hand store and refinished by the girls as a home furnishing problem.

4 Bath Room:

Ordinary fixtures—tub, bowl, seat and towels.

5 Bedroom:

Bed and springs, mattress, sheets, blankets, spread, pillows, pillow cases, dresser or table and mirror, chair, rugs, curtains and cover for dresser.

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THESE ARE THE RESULTS OF THE INVESTIGATION OF THE
CASE OF THE DEATH OF THE LATE MR. JAMES
J. HARRIS, JR., WHOSE DEATH OCCURRED ON
JANUARY 1, 1934, AT HIS HOME, 100
N. 10TH ST., CHICAGO, ILL. THE
DEATH WAS CAUSED BY A HEART
ATTACK, AND THE CAUSE OF THE
HEART ATTACK WAS THE RESULT OF
A LONG AND SEVERE ILLNESS.

6 Living Room:

(This room may be combined with the clothing room if no other is available.) One large rug or several small ones, simple chairs, table, pictures, curtains and possibly a writing desk and book cases. Provision must be made for hanging of coats and wraps of girls. If there is a hall in the house, this may be utilized for such a purpose. A movable blackboard should be provided. It is recommended that the maximum number of girls in a group be fifteen. If a house is selected as the place in which to give the instruction the redecoration of walls and the refinishing of floors should be left to the class as a problem to be worked out. The group should select the floor coverings, curtains and other furnishings. Furniture of good design may be bought from a second hand store and refinished by the class thereby affording a practical problem and lowering costs. If one room a year is furnished only a small investment needs to be made each year for equipment.

The old type laboratory equipment such as the laboratory table and individual stoves arranged in hollow square, or in any other arrangement, is not recommended, because with such equipment it is impossible to carry out the all round idea of homemaking. However in communities where a very large number of girls must be instructed and where the classes are large the most satisfactory arrangement for the homemaking work has been found to be a plan which includes the following:

a the flat or apartment

b a room for clothing work

c a room for foods work with group arrangement of tables and stoves or unit kitchens

d a general room for instruction in personal hygiene and academic subjects.

THE UNIVERSITY OF CHICAGO PRESS

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The Homemaking Instruction as a Basis for Vocational Guidance Instruction

One of the chief aims of part-time or continuation school work for employed boys and girls is vocational guidance. Properly adjusted vocational guidance instruction involves:

- a information relative to occupations
- b some participation in the practical work of the occupation for testing purposes and
- c placement of the individuals in occupations.

In the list of the principal occupations in which girls and women were engaged in New York State in 1920 and 1910 are to be found the following:

	1920	1910
1 Hairdressers, manicurists and barbers.	5,080	5,049
2 Dressmakers, seamstresses (not in factories.	37,849	68,082
3 Housekeepers and stewards.	23,799	20,648
4 Laundresses, not in laundries.	20,574	32,465
5 Midwives and nurses (not trained).	20,811	19,539
6 Restaurant keepers.	1,606	1,066
7 Semi-skilled operatives, knitting mills.	14,828	not available
8 Semi-skilled operatives, shirt, collar and cuff factories.	17,919	not available
9 Semi-skilled operatives, shoe factories.	8,734	5,460
10 Semi-skilled operatives, suit, cloak, coat and overall factories.	17,089	not available
11 Servants and waiters.	151,456	198,970
12 Trained nurses.	21,915	12,877

The homemaking teacher in planning her work can include as a part of every lesson which involves practical work instruction in vocational guidance information. For example the following correlations might be made in connection with the topics suggested in the first homemaking course outlined in this book.

Lesson topic:	Vocational guidance as to the occupation of:
The Hair	Hairdressing
Clothing	Dressmaking; laundry work; knitting; shirt, collar and cuff making; shoemaking; suit, cloak, coat and overall making; tailoring; retail selling of commercial clothing.
Food	Housekeeping and steward work: restaurant keeping; serving and waiting.
Health	Nursing

A great many other vocational guidance topics could be tied up with the homemaking lesson topics. The above are a few which can easily be organized.

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Time Allotments to Subjects

The part-time school courses are for the most part organized on a four, six or eight hour per week basis. While it is common practice to make use of unit lesson plans for instructional purposes and consequently to disregard the question of how much time should be assigned to any particular subject still it is necessary to follow some general plan of distribution of time to be devoted to the various subjects.

In most places where homemaking is offered as a separate course some such guiding principles as the following are observed as to the distribution of time devoted to subjects:

- a* At least one-half of the time is devoted to practical work in the home-making subjects such as food, clothing, home decoration and household sanitation and management.
- b* English is taught as a part of the course and usually occupies about one-eighth of the weekly attendance time.
- c* Social science subjects such as American history, industrial history, civics and economics are given about one-eighth of the time.
- d* Hygiene (and physical training) is given about one-eighth of the time.
- e* Correlated mathematics occupies about one-eighth of the time.

Vocational guidance which properly forms a part of the instruction given each week is introduced in the following ways:

- a* As a correlated topic in connection with the practical homemaking work. If the lesson or lessons center around the topic, The Nails—Care and Manicuring, the topic, Manicuring as an Occupation, can be introduced and taught.
- b* Sometimes the vocational guidance information is worked out in the classes in the social science subjects.
- c* As a subject for written or oral expression work in English.

The following brief outline will indicate a number of such topics which can be so used. :

Careers

Food, that most common necessity of life, is the basis also of an uncommonly long list of occupations open to the woman trained in home economics. Here is a list which is not complete because something new is being added all the time.

Business

Restaurants—Manager, \$75—\$250 per month.
 Cafeteria—Manager, \$1500—\$2500 per year.
 Cafeteria—Assistant Manager, \$900—\$2000 per year.
 Lunch Rooms—Stores, factories, schools.
 Tea Rooms—Independent ownership.
 Canning and preserving home products.
 Candy and cake for private trade.
 Catering.

Government

Research work in the chemistry of foods.
 Extension work, \$700—\$2500 and traveling expenses.

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Inspection of factories, \$1200 and upward.
Food inspecting.

Institutional Management

Hostess or housemother in institutions for girls.
Department managers in hotels, hospitals, sanatoria schools, \$50—\$150
a month and living.

Literary Work

Articles in magazines.
Newspaper work—special articles.
Book reviews
Editorial work.

Religious Work

Missionary work.
Y. M. C. A. work.
Manager of cafeteria, \$1200—\$1600.
Visiting housekeeper, \$1800—\$2000.

Scientific

Research laboratory worker in commercial establishments.

Advertising

For factories manufacturing food products.
Demonstration of food products.

Social Work

Community center work.
Family social work.
Visiting housekeeper.
Preventive work (through dietetics) in social work.

Dietetics

Hospitals, clubs, schools, other institutions, \$60—\$200 per month and living.

Education

Teaching home economics in public and private schools and in religious and charitable institutions.

Wherever and however introduced it is certain that no period of attendance should be permitted to go by without including a vocational guidance topic, particularly with the younger groups of part-time children who are attempting to find themselves vocationally.

Continued from page 1

The following information was obtained from the records of the Department of the Interior, Bureau of Land Management, for the year 1964:

1. The total number of acres of land owned by the Federal Government in the State of California was 1,140,000 acres.

2. The total number of acres of land owned by the State of California was 1,140,000 acres.

3. The total number of acres of land owned by the County of Los Angeles was 1,140,000 acres.

4. The total number of acres of land owned by the City of Los Angeles was 1,140,000 acres.

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Industrial Courses for Girls

The organization of part-time industrial courses which will make possible the realization of the objectives set up for such courses for girls involves four steps:

- 1 A survey of the organizations or establishments in which the girls are employed, together with the making of an organization chart which will show clearly the types of jobs in which girls of continuation school age are employed and the lines of promotion.
- 2 An analysis of the jobs in which girls and women are employed.
- 3 The making of courses of study which will cover, and in proper instructional order, the facts and skills which are to be taught.
- 4 The organization of unit lessons for teaching purposes, which teaching should be supplemented by the use of unit instruction sheets.

The Survey

In the making of a survey of an industry the following plan should be followed:

- 1 The executive officers of the plant to be surveyed should be visited and their interest and co-operation secured in the work of part-time education as well as their permission to make studies of the pay roll jobs in the plants.
- 2 Contact should be established with the subordinate executives and the foremen in the plants and all the general data needed should be secured from them.
- 3 The work of the workers in each pay roll job should be studied to find out (1) just what they do (2) just what they need *to know* to do their job and (3) just what the working conditions are and what supplementary information would be of value in organizing courses of study for them.

The survey of the pottery industry made by the Federal Board for Vocational Education, for example, shows the following:

- 1 Potteries visited
- 2 Products manufactured
- 3 Departments studied
- 4 Pay roll jobs

One of the departments of a pottery plant studied was the dipping room. The following summary shows the results of a study of the work of a dipper or helper:

- 1 Department—Dipping Room
- 2 Name of pay roll job—dipper and helper

Qualifications for Employment

- a* Sex—Women and Men
- b* Skill—Considerable
- c* Educational and Mental

Reading

Writing

Arithmetic

Special knowledge

Special skill

General intelligence

Reliability

Experience

- d* Physical
 - Light
 - Active
 - Strong
 - Dextrous
 - Good eyesight
 - Health

e Age at entrance—20

3 Work jobs

- a* Bringing in
- b* Dipping
- c* Setting out
- d* Setting stilts
- e* Placing on bars
- f* Marking kiln
- g* Marking rings
- h* Buffing

4 What the worker does:

The ware is brought into the dipping room from the bisque cleaning room and underglaze decorating shop. Using thumb hoops for plates, diahes or saucers, the dipper picks up a dish, dips it in the glaze in a tub with flaring sides, the top of which is plenty high above the glaze, then holds it just above the surface and gives it one or two particular twists with the wrist that spreads the glaze evenly over the surface and throws off the excess against the sides of the tub.

Cups are dipped without the thumb hoops using the thumb and two fingers. Cups dipped and twisted as above are set upside down on a screen. The helper picks them up and places them on a board.

After dipping, the ware is set on a board and the helper sets stilts between plates and dishes. The helper puts filled boards on drying racks. Ware must be dried before going to the kiln.

An order sheet comes in with each order for ware to be dipped. The boss dipper marks the kiln number on the order sheet when the ware is taken out of his room to the kiln.

Kilns are numbered at the beginning of the year and in the order in which they are fired.

Certain drying bars are reserved for ware to go to the kiln in different rings. The ware for each ring is marked by a certain colored tag on the boards.

Cups and bowls have their bottoms buffed on a wheel after dipping to prevent sticking when set on the bottom of the saucer.

5 What the worker must know:

He must know that browns, blues and grays are fired in the third ring, green in the second ring and white in the first and fourth rings.

He should know every design and size of ware made. He must know that too thick glaze will run down and crack and check near the center of the plate or dish.

What should be taught the dipper is shown from the following outline or course of study:

1 Manipulation—To dip the ware in glaze and to mark for placing in the kiln so that the worker can spread the glaze properly on any kind of ware, and to determine the ring in which it is to be fired.

2 Auxiliary information

a Trade terms

Material—Names of all dipped ware made in the plant, glaze,

bisque ware, glazed, decorated ware. Factory names for different kinds of glazes where more than one kind of glaze is used, browns, blues, grays, greens, black and other colors of underglaze decoration.

Machinery, tools, equipment—Truck, carrying board, thumb hook, glaze tub, drying bars, screen, stilt, kiln, buffing wheel, brushing machine.

Operating—Top and bottom of kiln, 1, 2, 3, 4 inch rings in kiln bisque cleaning room.

Special—Order sheet, cracking, checking, short of glaze, foot marked.

b Stock.

Recognition—Know the different kinds of ware in the factory.

Working properties—Must know proper consistency of glaze to prevent checking and cracking in firing and yet give a good gloss.

Regulate consistency of glaze either by weight per pint or by hydrometer

c Care of tools and equipment—Keep boards, bars, dipping tubs, pails, screens, floors, all stocks, and materials in dipping room clean.

d Safety. Keep from getting any dry glaze on tubs and boards so as to avoid lead poisoning (occupational danger). Avoid fumes from glaze in warm damp room. Hands should be thoroughly washed and clothes changed when through work. Oil and sawdust on floor to keep dust down.

3 Mathematics

a Count up to 100

b Know numbers up to the maximum number of kilns fired in a year.

c Count ware by dozen and fraction of dozen.

4 Science

a Substances used for decorating melt at different temperatures.

b Colors having lower melting point, such as blue and gray, are fired where there is lower temperature, whereas green takes a little more heat and white ware most heat. Effect on colors of light and heavy coats of glaze.

Job Analysis Cards

A number of plans are followed in the work of making job analyses. A simple but effective one which has been worked out and used during the past year is here reproduced. It is made up in the form of five cards, as follows:

- Card A — 1 lists points for a job inventory, pay, promotional possibilities, etc.
- Card A — 2 lists points for job analysis
- Card B — 1 lists auxiliary information necessary for a complete understanding of the job.
- Card B — 2 lists technical knowledge actually required in job performance.
- Card C — 1 lists the relatable possibilities which correlate with the pupil's experience on the job.

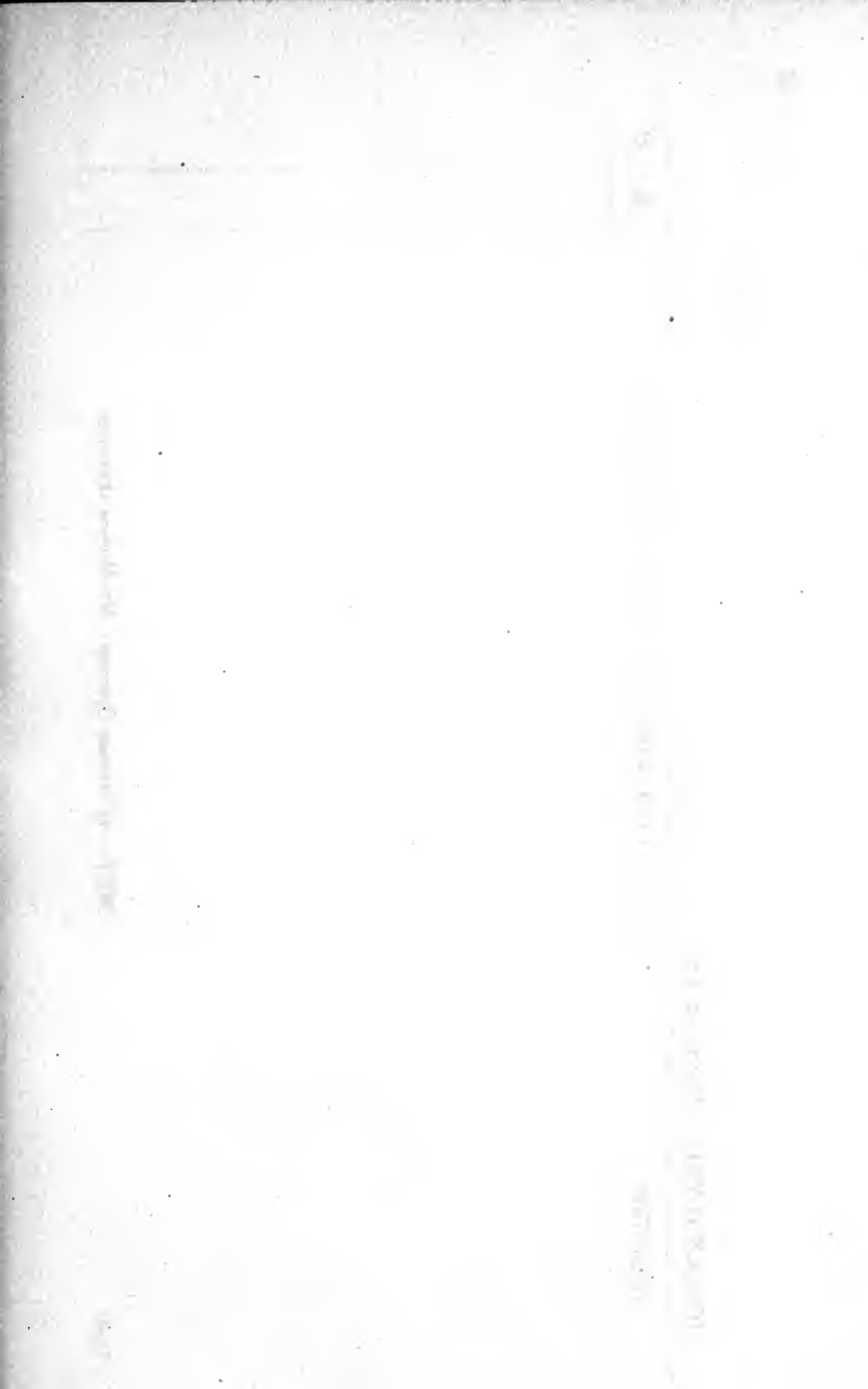
Job No.....
GENERAL INFORMATION CONCERNING JOB OF.....

- 1. Job Specifications (Requirements)
 - a. Education (Grade Completed).....
 - b. Physical Requirements.....
- 2. Community Importance (Estimated) A, B, C, D, E, F *
- 3. Employment, Steady or Seasonal (Check One) Wage \$... Hrs...
per week per week
- 4. Working Conditions:
 - a. Hygiene, A, B, C, D, E *
 - b. Moral, A, B, C, D, E *
 - c. Occupational Dangers.....
-
- d. Welfare Work Carried on by Employer.....
-
- 5. Expectation:
 - a. Job, Permanent.....
 - b. Job, Temporary.....
 - c. Promotional Possibilities.....
- 6. Labor Legislation particularly applicable to Job, as: prohibitive employment, hours of labor, operation of machines, physical examination, etc. (See bulletin, New York State Labor Law, 1920).....
-

*Remarks; A—90-100; B—80-90; C—70-80; D—60-70, etc.; Check one.

(A-1)

Card number one lists the points for the job inventory giving pay, promotional possibilities, working conditions and legal limitations affecting the job



JOB NO.

JOB ANALYSIS—Name of Job

OPERATION	STEPS IN EACH OPERATION, IN ORDER OF LEARNING	H	M

NOTE:—H=Human Operations, M=Machine Operations

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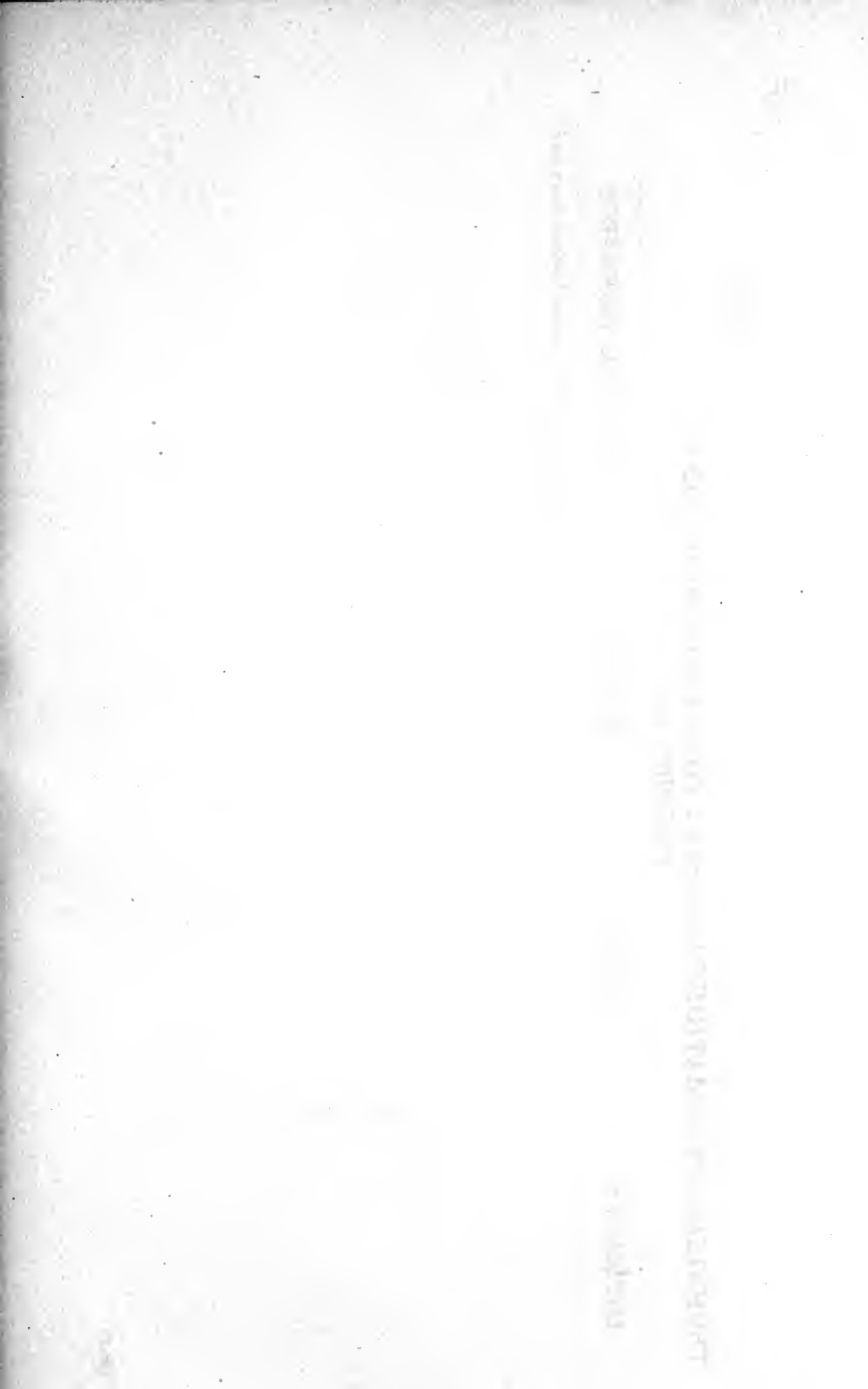
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JOB NO.

AUXILIARY INFORMATION FOR JOB OF

TRADE TERMS	MATERIALS		TOOLS	HYGIENE—SAFETY
	NAME—PROPERTIES	SELECTION—USE		
MACHINE				
OPERATION				
LOCATION				
SPECIAL				

(B-1)



JOB NO.

TECHNICAL INFORMATION NECESSARY FOR PERFORMING JOB OF TEACHING POINTS

MATHEMATICS	SCIENCE	DRAWING	ANY OTHER INFORMATION
			More especially <i>Vocational Guidance</i> facts and references.

1. The first part of the paper is devoted to a general discussion of the problem of the existence of solutions of the system of equations (1) under the conditions (2).

2. In the second part we shall consider the case of the system of equations (1) with the conditions (2) and (3).

3. In the third part we shall consider the case of the system of equations (1) with the conditions (2) and (4).

4. In the fourth part we shall consider the case of the system of equations (1) with the conditions (2) and (5).

5. In the fifth part we shall consider the case of the system of equations (1) with the conditions (2) and (6).

6. In the sixth part we shall consider the case of the system of equations (1) with the conditions (2) and (7).

7. In the seventh part we shall consider the case of the system of equations (1) with the conditions (2) and (8).

8. In the eighth part we shall consider the case of the system of equations (1) with the conditions (2) and (9).

9. In the ninth part we shall consider the case of the system of equations (1) with the conditions (2) and (10).

10. In the tenth part we shall consider the case of the system of equations (1) with the conditions (2) and (11).

JOB NO.

POSSIBLE CLASSROOM CORRELATION FOR JOB OF

RELATED MATH.	RELATED ENGLISH	RELATED HYGIENE	REL. DRAWING	REQUIRED SUBJECTS
		ACCIDENT <i>PREVENTION</i>		U. S. HISTORY, ECONOMICS, INDUSTRIAL HISTORY AND CIVICS.

Methods of Teaching

Instructional material should be organized in terms of unit lessons. The teaching should be (a) class instruction (b) group instruction and (c) individual instruction, and unit instruction sheets should be used to supplement the work of the teacher.

Unit Instruction Sheets

The theory and practice of organizing unit instruction sheets is contained in a separate monograph forming a part of this series for continuation school teachers. (See Unit Instruction Sheets and Individual Instruction in Vocational Classes, by R. H. Rodgers and Oakley Furney.)

Division of Time

The time of attendance of pupils registered in individual courses in part-time schools is customarily divided as to subjects in the following manner:

- 1 practical industrial work such as shop work, drawing and design at least one-half of the time of weekly attendance.
- 2 related mathematics at least one-eighth of the time.
- 3 English at least one-eighth of the time.
- 4 hygiene and safety at least one-eighth of the time.
- 5 social science subjects such as American History, industrial history, civics and economics at least one-eighth of the time.

Vocational Guidance

Effective vocational guidance work is of three sorts (1) instruction in terms of vocational guidance information (2) try-out or testing work of practical character in school shops and under conditions similar to those found in industrial establishments (3) proper placement of pupils and (4) consistent follow up work.

Instruction in terms of vocational guidance information may be given in a number of ways and at a variety of times as follows:

- 1 in connection with the practical shop work
- 2 as topics for written and oral discussion in English classes
- 3 in connection with the instruction in the social sciences.

Equipment for Industrial Courses for Girls

If industrial courses are set up in part-time schools for the purpose of accomplishing the objectives determined upon for such courses certain guiding principals should be observed in the purchase of equipment. The following are the most important:

- 1 The equipment should be similar to that found in industrial establishments.
- 2 It should be installed with a view to actual production work.
- 3 Modern safety devices should be purchased for every machine.
- 4 Only general purpose machines should be purchased, that is speciality production work should be avoided.

homework and long night - difficult work - sometimes late
 but felt the satisfaction - especially in the morning - when
 I could see the results of my work

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A number of short equipment lists follow. These have been prepared with the advice of employers of girls of continuation school age and are considered suitable for the purposes of the work

Power Machine Operating and Garment Making Equipment (for use by 15 girls)

Items	Names of Machines	Estimated Cost
15—plain stitching machines		
	Singer No. 95—10.....	@ \$45 each \$675
5—folder machines.....	@ \$175 to \$250	\$1250
2—union special sleeving machines.....	@ \$210 each	\$420
2—union special filling machines.....	@ \$280 each	\$560
1—yoking machine.....	@ \$200	\$200
1—button hole machine.....	@ \$300	\$300
Tables for 26 machines and 5 H. P. motor and transmission.....		\$500

Equipment for Textile Work

Knitting, Spinning, Weaving,

Picking and Carding

- 1—36" automatic feeder attached to 1—40" picker, single beater with evenner motion
- 1—40 revolving flat card
- 1—drawing frame, 5 or 6 deliveries, 12" cams with metallic rolls
- 1—combination slubber and intermediate, 11" x 5½" or 10" x 5", 30 to 40 spindles
- 1—spinning frame, combination warp and filling builder, 3" gauge, 6" bobbins, 60 to 80 spindles
- 1—spooler, 30 to 40 spindles for 6" x 3" spools
- 1—warper, about 4000 ends.
- 1—Universal winder, 6 spindles, different winding attachment for each spindle.
- 2—automatic looms (plain and fancy)
- 1—Payne winder.
- 2—Scott and Williams knitting machines
- 2—Cooper Springs needle rib knitting machines
- 1—Eastman cutter
- 6—shears
- 13—power sewing machines mounted on tables (4 machines to each table) as follows:
 - 1—Marrow edging machine
 - 3—Wilcox and Gibbs seamers
 - 3—Union special seamers
 - 1—facing machine
 - 1—button staying machine
 - 1—Marrow shell machine
 - 1—Singer tacking machine
 - 1—button sewing machine
 - 1—button hole machine
 - 1—Cutting table
 - 24—Operators chairs

(The above equipment was particularly planned for use in Utica, N. Y., and is adopted to the demands of knitting, spinning, weaving, picking and carding work).

Equipment for Teaching the Shoe Making Trades

- 1 For lasting room
 - bed last machine
 - pulling over machine
 - upper trimmer
- 2 Bottoming room
 - inseaming machine
 - welt beating machine
 - sole layer machine
 - rough rounder machine
 - Goodyear stitcher
 - leveling machine
 - seat nailer
- 3 Making room
 - heeling machine
 - breast trimmer
 - heel trimmer
 - edge trimmer
 - heel scouring machine
 - edge cutter
- 4 Finishing room
 - bottom sander
 - naumkeaging machine
 - heel burnisher
- 5 Stock fitting
 - channelling machine
 - shank reducing machine

(Planned particularly to meet the needs of workers in the shoe trades in Auburn, N. Y.)

Courses of Study in Industrial Work for Girls

For the purpose of showing the richness and extent of industrial occupations which are open to girls and of illustrating what may be taught in try-out or testing courses, preparatory courses and extension courses three outline courses are given here:

- 1 Power machine operating and garment making.
- 2 Textile work—knitting, spinning, weaving, picking and carding.
- 3 The shoe making trades.

These courses are based on a study and analysis of the trades.

A Course of Study in

Power Machine Operating and Garment Making

- 1 The machine

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- a* control of the machine—starting and stopping
- b* care of the machine—oiling, dusting, cleaning
- c* adjusting of parts—threading of machine, regulating tension, setting up needle, stitch regulating, care of bobbin
- d* knowledge of standard machines
- e* adjustments and use of attachments
- 2 Plain operating processes (applied to simple garments) single and two needle machines
 - a* plain sewing (flat)—straight edges, one straight and one shaped.
 - b* felled seaming—by hand, through hemmer
 - c* length of cloth, straight hems on width of cloth, shaped hems as on bottom of skirts
 - d* short and long length stitching
- 3 Garment making
 - a* pocket making—knowledge of parts, putting parts together
 - b* trimmings—collars, cuffs, pockets
 - c* sleeve making
 - d* sleeve setting
- 4 Special courses
 - a* pocket making—flat, welt, piped
 - b* button sewing and button hole making (machine)
 - c* hand finishing—hand button holes and eyelets; embroidering, initial making
 - d* shirt making—pockets, yoking, front plaiting and facing, collars, and cuffs, ties, bosom making, pocket making, sleeve making, assembling parts, two needle seaming.
 - e* shirt waist making
 - f* skirt making—seaming, hemming, facing, flounce making and setting
 - g* house dresses

Outline of a Course of Study in Textile Work, Knitting, Spinning, Weaving, Picking and Carding.

Knitting

- 1 Plain knitting one and one cloth for cut to shape garments on plain latch needle body machine
- 2 Latch needle, balbriggan, plain, web knitting for plain and fancy stripped in light weight underwear
- 3 Rib cuff and border knitting on circular latch needle, rib border and cuff machinery
- 4 Spring needle circular rib knitting

Spinning

- 1 Slubbers, first and second, intermediate, changing and fixing frames, operations
- 2 Spinning frame methods of preparing yarn for twisting
- 3 Size of rings and travelers for different counts of yarn

Weaving

- 1 Plain looms—construction and principal movements in weaving

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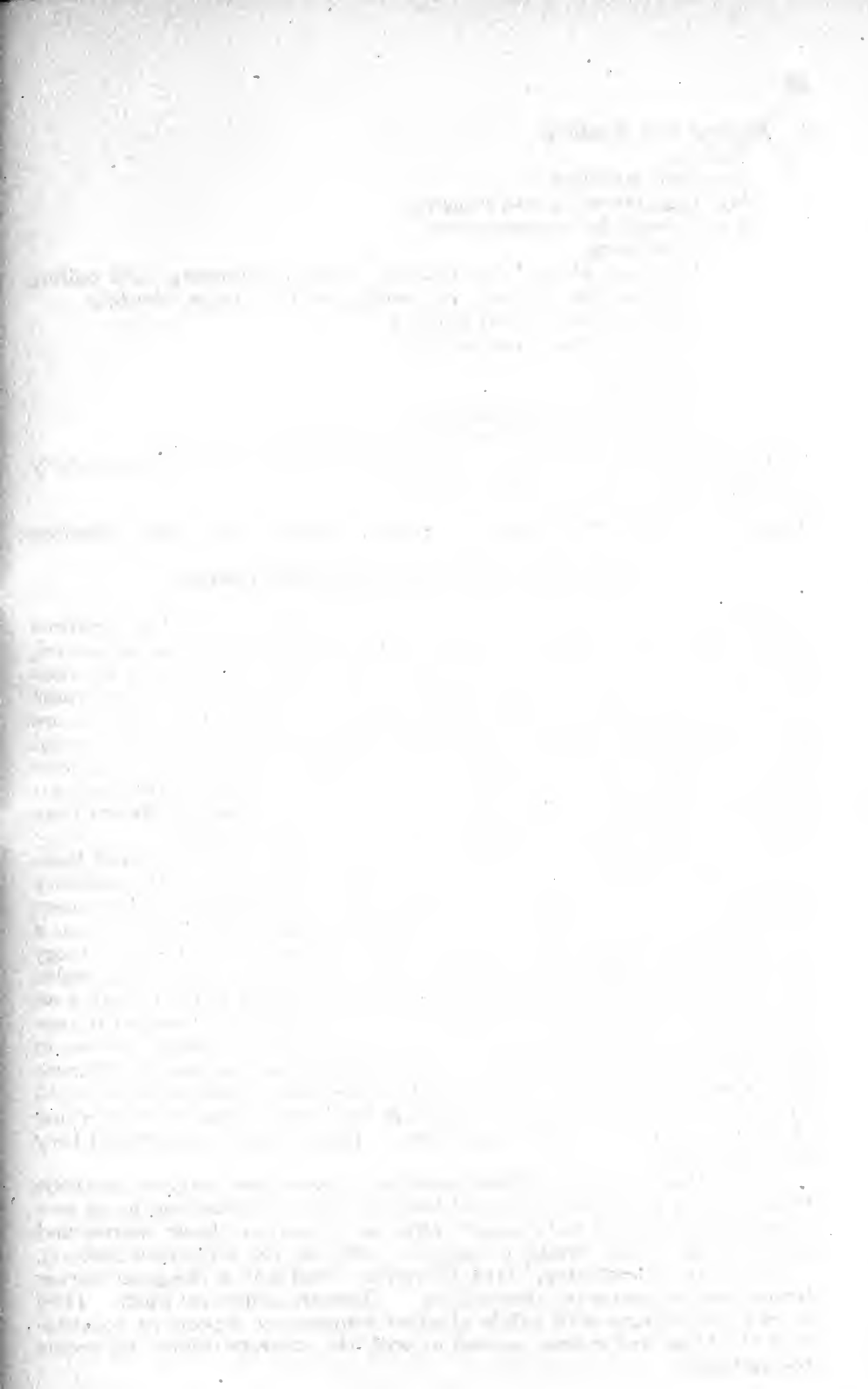
- 2 Shedding methods and motions
- 3 Timing cams. Varieties of cams
- 4 Picking motions and methods. Shuttles and boxes
- 5 Protector motions. Reeds—let-off and take-up motions
- 6 Filling stop motions. Temples, various makes
- 7 Special features of various makes of looms
- 8 Operation and fixing of looms

Picking and Carding

- 1 Cotton yarn machinery and sequence of processes
 - 2 Method and object of binding
 - 3 Pickers, automatic feeders, construction and operations
 - 4 Carding—setting arrangements, speeds
 - 5 Clothing, grinding, setting and stripping cards
- (The above outline is adapted to the needs of the knitting, spinning, weaving, picking and carding workers of Utica.)

A Course of Study in the Shoe Trades

- 1 Upper leather cutting
 - Trimming cutting
 - Linings
 - Outsides, hand and machine
 - Stock sorting
 - Skiving
- 2 Upper leather fitting—(girls only).
 - Lining making and stamping
 - Closing and staying
 - Perforating, cementing and pressing
 - Back stays, tip stitching, fancy stitching and binding
 - Single needle work
 - Facing
 - Top stitching, closing on, turning and blocking
 - Button hole operating, finishing, button sewing and eyeletting
 - Vamping
 - Barring and toe closing
 - Table work
- 3 Sole leather
 - Channelling
 - Making inner soles
 - Sorting soles for size, weight and quality
 - Demonstration teaching
 - a rounding and cutting soles
 - b cutting inner soles
 - c rolling and splitting
 - d pasting and trimming tops and spring heels
 - e turning channels
- 4 Lasting—demonstration teaching only of
 - a welts—assembling, hand pulling and hand lasting
 - b pulling over machine—use of
 - c bed machine—use of



5 Making and finishing

Welting

Goodyear stitching

Scouring, breasting and slugging

To be taught by demonstration

a rounding*b* bottom filling, welt beating, in seam trimming, tack pulling and setting, leveling, heel setting, nail and fudge wheeling*c* edge trimming and jointing*d* edge blocking and setting*e* nailing*f* shaving*g* buffing and naumkeaging*h* tolling and finishing bottom and heels

(The above was organized to meet the needs of the shoe trades of the City of Auburn, N. Y. and for boys and girls).

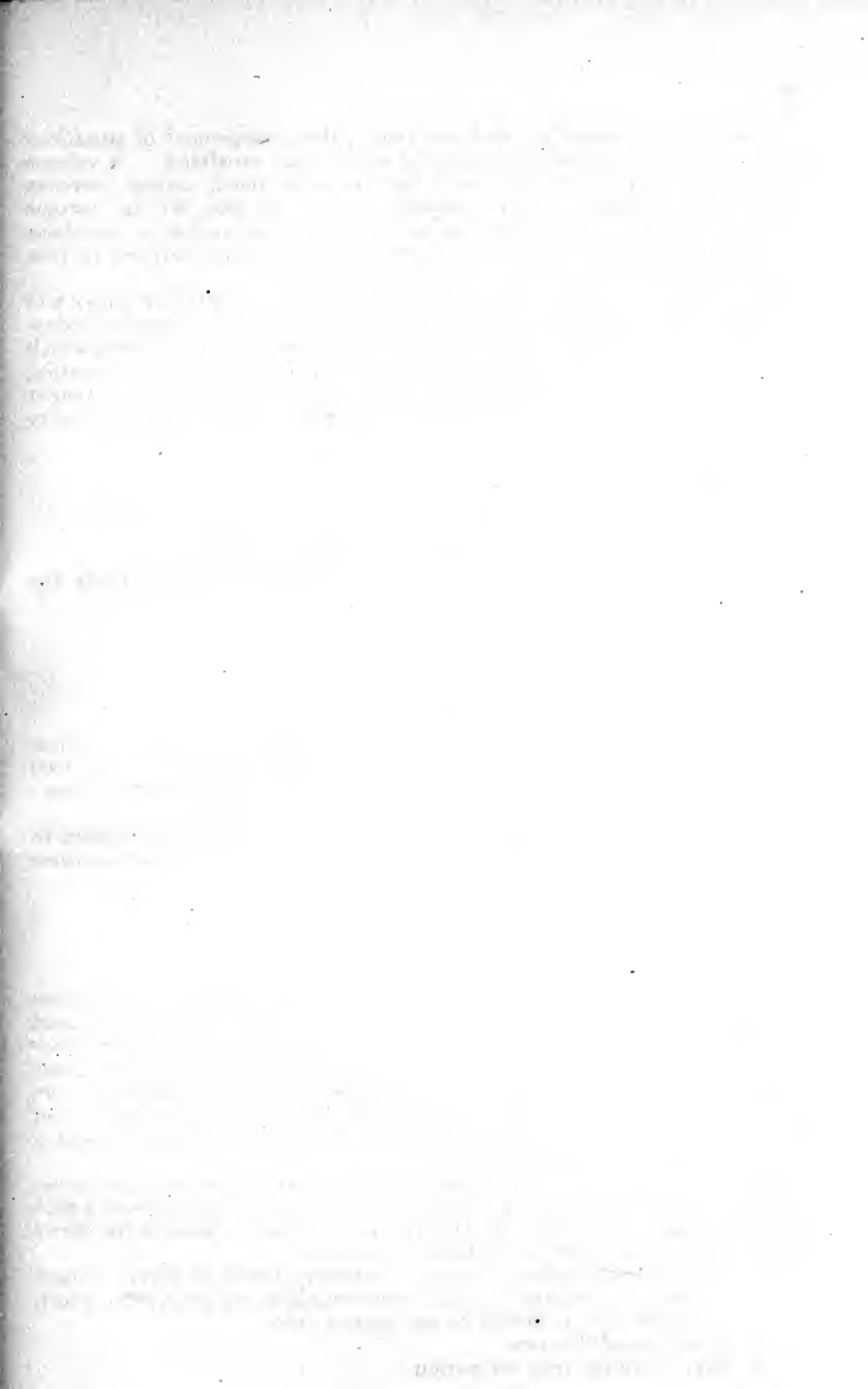
Teaching English, Mathematics, Science, Hygiene and Social Sciences to Girls in Industrial and Homemaking Courses.

While for the purpose of realizing the objectives set up for part-time school work the various courses have been denominated as industrial, commercial, homemaking or agricultural, and while such courses are conceived as being of a vocational character still a study of a typical school organization will reveal at once that the usual regular school subjects are given, that is that English, mathematics, science, hygiene and the social sciences such as American history, industrial history, civics and economics find a large place in the curriculum of these schools. However the materials and methods used in teaching such subjects are considerably different from these employed commonly in the grammar and high schools.

It is clearly recognized by part-time school teachers that "all must learn to read and to write, to use figures wherever necessary in the ordinary affairs of life, and to know enough about history to appreciate the element of growth in civilization, enough of science to understand that it means a substitution of real knowledge for mere "rule of thumb," enough of physiology and hygiene to appreciate the existence of natures' laws governing the health of the individual and of society and enough technical work to inspire an interest in the industrial activities by which the majority of humanity supports itself. It is hard to conceive of attainment of genuine success in life, under present day conditions, that is not built upon at least a rudimentary working knowledge of practically all of these educational elements. These are found in the school curriculum today as a result of the working of the law of the survival of the fittest. Because they are essential they have persisted."

New methods are to be applied to the teaching of these subjects, methods based upon a sound psychology of learning, that of connecting up or correlating that which is to be taught with that which is of basic interest and greatest value to this group of employed children, the vocational training.

"Learning is connecting," says Thorndike, "and man is the great learner because he forms so many connections. There are millions of them. They include connections with subtle abstract elements or aspects or constituents of things and events, as well as with the concrete things and events themselves."



"Learning is connecting, and teaching is the arrangement of situations which will lead to desirable bonds and make them satisfying. A volume could well be written showing in detail just what bonds certain exercises in arithmetic, spelling, German, philosophy, and the like, certain customs and laws, certain moral and religious teachings, and certain occupations and amusements, tend to form in men of given original natures; or how certain desired bonds could economically be formed."

The method of teaching the general subjects in the part-time school will be that of maintaining an intimate relation between (1) the practical industrial and homemaking work and (2) those other intellectual processes which in their expressions we classify and denominate as English, mathematics, science, social science and hygiene. For example the mathematics taught to a group of girls in a class in print transferring in the pottery industry will include the following:

- 1 counting to 100
- 2 counting one days work by printers' count
- 3 centering a crest in a circle or other geometric figure (by eye)
- 4 transferring location marks from one dish to a bung
- 5 dividing a circle into as many as five segments by eye

The science which should be taught the same group will include the following facts:

- 1 water penetrates paper
- 2 water softens paper
- 3 water dissolves size
- 4 pressure improves the bonding quality of size
- 5 ink (the color) resists water

The English will include oral and written expression based upon such reading as the chapter on The Pottery Industry from *Elementary Industrial Arts* by L. L. Winslow, or *The Potter's Song* from *Karamos* by Henry Wadsworth Longfellow.

The following sections contain considerable helpful material relative to the organization and teaching of these general subjects in the part-time schools.

Hygiene

The purpose of teaching hygiene in the part-time school is to increase the occupational efficiency of the girl. It is obvious that any improvement in the physical condition of a young worker will certainly increase her efficiency. Improper diet and infringement of the laws of physical life result in reduced energy and sickness. Children rarely have any adequate knowledge of the effect which their modes of life have upon their health and strength. Any study or training which tends to improve the pupils' health will possess real vocational value.

In the organization of instructional material care should be taken to establish the proper contacts with the types of work or the vocations which are being taught or in which the children are engaged. Some of the topics which should be included in a course of study are:

- 1 occupational dangers—dangers of catching hands in knives, danger from dust, danger to eyes when working on an emery wheel, danger due to failure to use guards, etc.
- 2 occupational diseases
- 3 food, clothing, rest, recreation

- a* food according to occupation and why
- b* clothing according to occupation
- c* avoidance of fatigue—"Statistics covering accidents in the factories of Illinois for a period of one year show that between the hours of 8 and 9 o'clock in the morning there were 120 accidents, and that this number steadily and progressively increased until, during the hour between 11 o'clock and noon 257 accidents were recorded. In the hour following the noon rest, or between one and two o'clock, there were 111 accidents, the number again increasing hour by hour until between four and five o'clock the maximum of 260 accidents was reached."
- 4 physical condition in relation to the choice of occupation
- 5 state laws relative to safety and hygiene in factories
- 6 hygiene in the home
- 7 community hygiene

Social Science

Such subjects as American history, industrial history civics and economics should be taught from the standpoint of social science. The objective should be the explanation of the industrial, economic and social situations which the girl finds herself in and some clear understanding of the historical development of these situations. The topics which might well be considered in such a course are as follows:

- 1 The modern industrial system
 - a* relationship of an employee to her employer
 - b* relationship of an employee to fellow workers
 - c* the modern factory and its advantages in a scheme of production
 - d* rewards of labor
 - opportunity to work
 - increased earning power
 - leisure
 - satisfaction
 - e* development of modern factory system
 - f* development of modern system of free labor
 - g* necessity of management
- 2 Some necessary economic facts
 - a* human wants—individual, community and industrial
 - b* satisfaction of economic wants
 - c* wealth and poverty
 - d* agencies of production—land, labor, capital, management
 - e* property
 - f* the economic ideal
- 3 Land
 - a* private ownership of land
 - b* how private ownership came to be
- 4 Capital
 - a* what capital is
 - b* the capitalist
 - c* capital and labor
- 5 Political science—American
 - a* constitutional rights
 - b* how society governs itself
 - c* branches of government

THE UNIVERSITY OF CHICAGO

DEPARTMENT OF CHEMISTRY

RESEARCH REPORT

REPORT NO. 1000
TITLE: THE EFFECT OF TEMPERATURE ON THE RATE OF
REACTION OF HYDROGEN PEROXIDE WITH
FERROUS SULFATE IN ACIDIC SOLUTION

1950

BY: J. H. KILPATRICK

AND: J. E. HARRIS

DEPARTMENT OF CHEMISTRY

UNIVERSITY OF CHICAGO

CHICAGO, ILLINOIS

1950

RECEIVED: MAY 1, 1950

- d* taxes a function of government
- e* Federal customs
- f* development of political institutions

Mathematics

In the teaching of mathematics the teacher should organize instructional material which is intimately correlated with the jobs taught. The job analysis should reveal just what mathematics a worker needs to know in order to perform a specific job. The liner and gilder in the decorating department of a pottery must be able to:

- 1 count by dozens up to one day's job.
- 2 count by dozens using printer's count.
- 3 measure widths of lines (by eye) to $1/34$ th inch.
- 4 measure space (by eye) to $1/64$ th inch.
- 5 test widths and distances with a rule.

These various computations should be taught in connection with the jobs to which they apply or in the performance of which ability to do is necessary.

Text books can not be used except for drill work as it is impossible to set up in any but a specially prepared book the work which should be taught.

Nearly every topic presented in homemaking affords an opportunity for the teacher to present considerable in the way of arithmetical work.

Another good field is that of account keeping, particularly as related to the expenditures of the family income. It will be possible to compute the amount which any family having a given income should spend on the various items of the budget. "Each item of the budget should be analyzed. For example in dealing with the expenditures for food the prices can be verified, the food cost for a week found and the cost for a year estimated. Such work is good arithmetic and good elementary economics and should help to convince the girls that arithmetic is something which is really useful in daily life."

English

English is generally recognized as one of the important subjects. The purposes which seem possible of realization and particularly appropriate for part-time pupils in the teaching of this subject are:

- 1 ability to interpret the printed page.
- 2 development of a genuine fondness for books.
- 3 development of a desire to read as a means of recreation.
- 4 development of the idea of the dependence of the civilized world on books
- 5 development of the idea that ability to handle books will contribute to success.
- 6 development of power of oral and written expression.
- 7 development of aesthetic appreciation for literature.

To induce reading it is necessary to first provide those books which the girls want and which they can read easily and quickly and then to introduce the works they should have. They should have access to a large and varied assortment of books and magazines and should be encouraged to devote time to outside reading.

A general outline of English work for part-time classes follows:

1 Oral English

- a* free discussion, in all classes
- b* talking to the point—listing points and organizing material for one minute talks
- c* corrective drills for mispronunciations
- d* vocabulary building
- e* cultivation of variety of expression
- f* correcting “and” and “then” habits
- g* formulating intelligent questions
- h* oral application for position

2 Reading

- a* silent for content—how to study and to interpret orders; use of dictionary, reference works and newspapers.
- b* for appreciation—exposing to library, listening to teacher, giving fine quotations.

3 Grammar

- a* corrective drills for misused verbs, pronouns, adjectives, adverbs, prepositions
- b* correction of vulgarisms
- c* punctuation of written work
- d* spelling trade terms and student's written vocabulary
- e* little work in grammar

4 Written English

- a* copying or writing from dictation, note book material in all classes
- b* filling out forms
- c* business letters
- d* friendly letters
- e* written reports
 - description—tools, processes, etc.
 - exposition—simple directions, etc.
 - narration—reports on shop work, etc.

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1880-1881

1881-1882

A List of Helpful Books, Bulletins and Illustrative Material For Teachers of Homemaking and Industrial Subjects For

Girls In Part-time Schools

Homemaking Subjects

Food

Cooley and Spohr, Household Arts for Home and School, Vol. 1 and 2, Macmillan Co.

Rose, Feeding the Family, Macmillan Co.

Gillet, Dietetics for High Schools, Macmillan Co.

Photographs of meals for children—small size, unmounted (18 cents each), Department of Agriculture, Washington, D. C.

Washburn Crosby Co., Flour Exhibit, Minneapolis, Minn.

Meat Charts, Wilson & Co., Chicago, Ill.; Armour & Son, Chicago, Ill.

Food Charts, Langworthy, Division of Publication, U. S. Department of Agriculture, Washington, D. C.

Clothing

McGowan and Waite, Textiles and Clothing, Macmillan.

Woolman, Clothing, Choice, Care and Cost, Lippincott.

From Wool to Cotton, American Woolen Co., Boston, Mass.

Balddt, Clothing for Women, Lippincott.

Biglow, Good and Appropriate Dress Charts, Webb Publishing Co., St. Paul, Minn.

Selection and Care of Clothing, Farmers Bulletin No. 1089, Department of Agriculture, Washington, D.C.

Clothing for the Family, Bulletin No. 23, Division of Publications, Department of Agriculture, Washington, D. C.

Home Furnishings and Decoration

Bevier, The House, American School of Home Economics, Chicago, Ill.
Daniels, Furnishing a Modest Home, Atkinson, Mentzer Co., New York City.

Home Furnishing, Extension Bulletin, Iowa State College, Ames, Ia.

The Decorative Use of Flowers, Extension Bulletin, Cornell University, Ithaca, N. Y.

Educational Pictures, Catalogue, Walter Lillie, Columbus, Ohio.

Weaving New Baskets, Ladies Home Journal, Philadelphia, Pa.

Pamphlet, The House Beautiful, Marshall Field Co., Chicago, Ill.

Photographs, Furniture, Metropolitan Museum, New York City, (20c each, unmounted).

Sanitation—Child Care—Hygiene—Home Nursing

American Red Cross Text Book on Elementary Hygiene and Home Care of Sick, Blackiston & Son, Philadelphia, Pa.

Ritchie and Caldwell, Human Physiology, Primer of Hygiene and Primer of Sanitation, World Book Co., Yonkers, N. Y.

Care of Children Series, Children's Bureau, United States Department of Labor, Washington, D. C.

Tolman, Hygiene for the Worker, American Book Co.

Stories for Young Children, also Training Little Children, United States Bureau of Education, Washington, D. C.

Broadhurst, Home and Community Hygiene, Lippincott.

Management—Budgets

Taber, *Business of Household*, Lippincott

Hints on Home Laundrying; *Approved Methods of Home Laundrying*;
Soap Exhibits, Proctor and Gamble, Cincinnati, Ohio.

Balderson, *Housewifery*, Lippincott

Planning the Home Kitchen, Cornell University, Bulletin No. 108.

Home Laundrying, Farmers Bulletin No. 1099, Department of Agriculture, Washington, D. C.

Thrift Lessons, Department of Agriculture, Washington, D. C.

Abel, *Successful Family Life on Moderate Income*, Lippincott.

Related Subjects**Science—Civics—History**

Tarkington, *My Country*, Ginn and Co.

Carpenter, *How the World is Fed, How the World is Housed, How the World is Clothed*, American Book Co.

Leavitt and Brown, *Elementary Social Science*, Macmillan

Trafton, *Science of Home and Community*, Macmillan

Hughes, *Community Civics*, Allyn and Bacon

Weed, *Chemistry in Home*, American Book Co.

Tufts, *The Real Business of Living*, Henry Holt and Co.

Zeigler and Jaquette, *Our Community*, John Winstown Co., Philadelphia, Pa.

Arithmetic

Roray, *Industrial Arithmetic for Girls*, Blakiston and Co., Philadelphia, Pa.

Ball and West, *Household Arithmetic*, Lippincott

Gardener and Murtland, *Industrial Arithmetic for Vocational Schools*, Heath and Co.

Miscellaneous Problems for Textile Classes in *Cotton Mill Arithmetic*, Clemson College, Clemson, S. C.

Design

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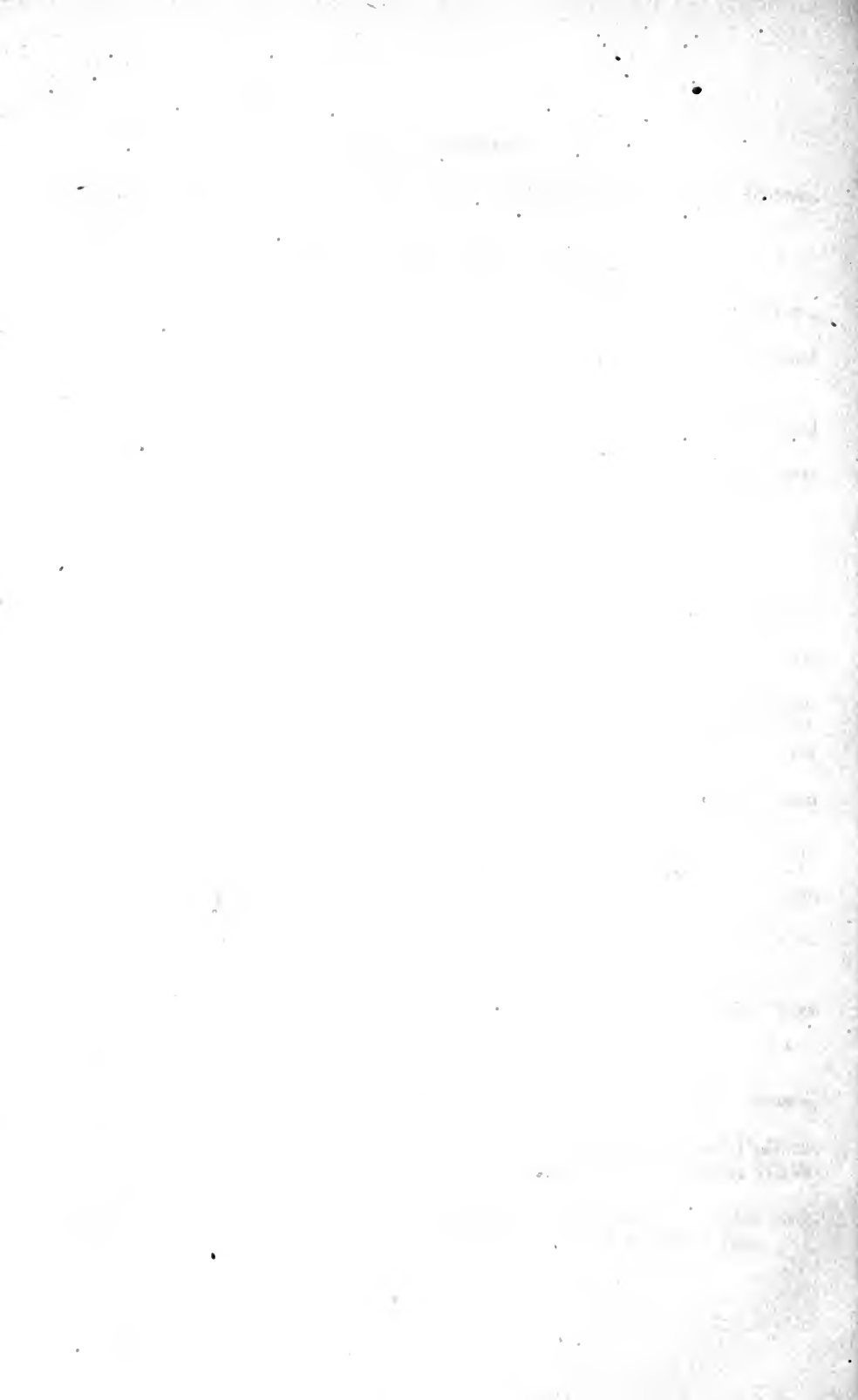
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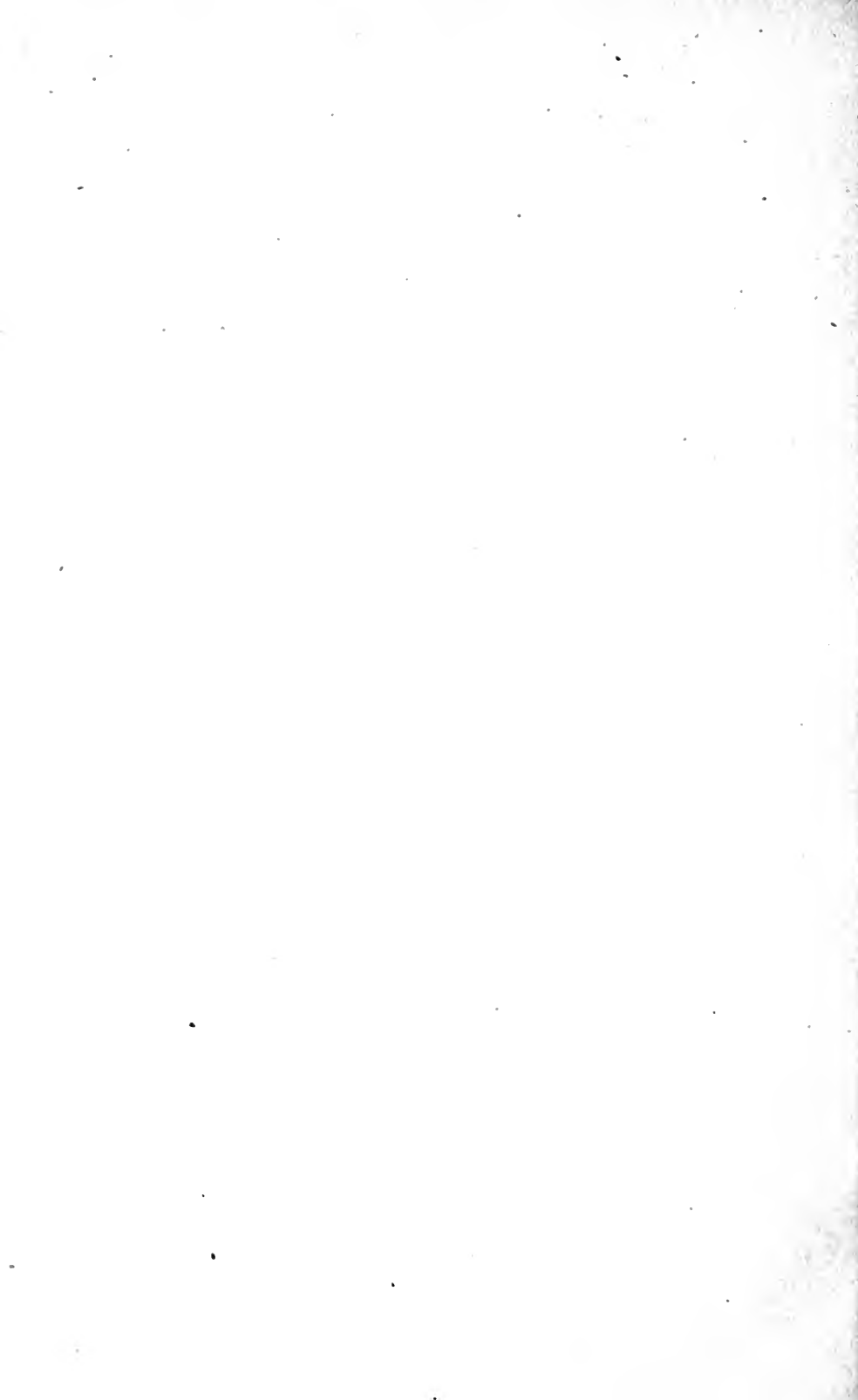
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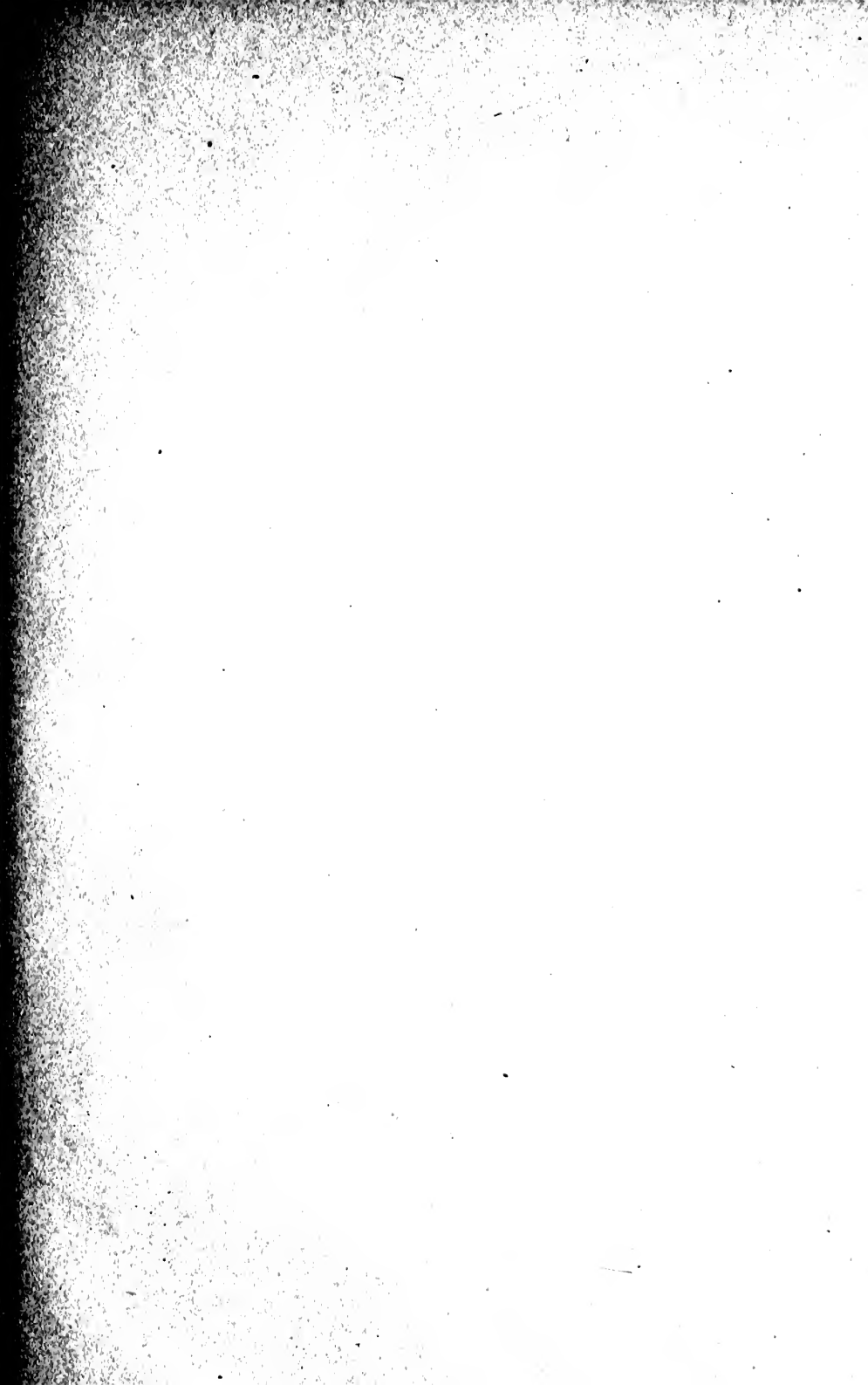
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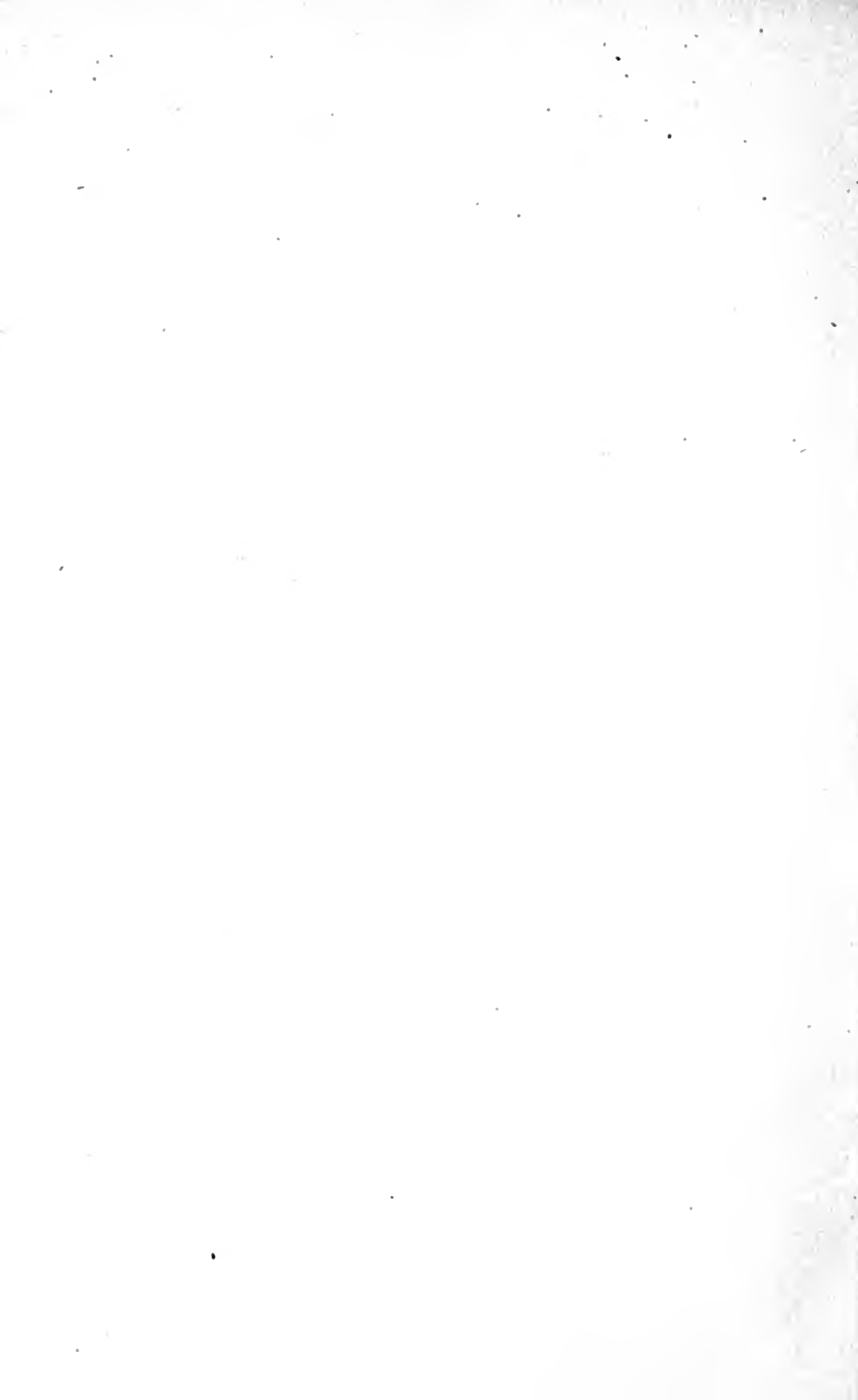
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